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09/931,708	08/16/2001	Wolfgang Reik	3191/0J589	3002

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EXAMINER

WILLIAMS, ERIC M

ART UNIT

PAPER NUMBER

3681

DATE MAILED: 05/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/931,708

Applicant(s)

REIK ET AL.

Examiner

Eric M Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-18 and 20-50 is/are pending in the application.
- 4a) Of the above claim(s) 4-6, 11, 12, 28-31 and 36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-10, 14-18, 20-27, 32-35 and 37-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 03 April 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This action is in response to the papers filed 04/03/2003 for serial number 09/931,708.

### ***Election/Restrictions***

Claims 4-6, 11, 12, and 28-31 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. While election was made "with traverse" in Paper No. 5, applicant did not allege any supposed errors in the requirement. The requirement for election of species is still believed proper and is hereby made final.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims rejected under 35 U.S.C. 102(b) as being anticipated by Checa Patent No. 5,205,387. The following reproduced claims set forth the corresponding structure of Checa ('387).

1. A power train (Fig.1), comprising:  
an output member (20) rotatable about a predetermined axis;  
a rotary input member (31); and means for transmitting torque between said input

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and output members (Fig.1), including an engageable and disengageable friction clutch (Fig.1) having a housing (21, 28) rotatable with said output member about said axis, a rotary clutch disc (26) arranged to rotate with said input member, and means for selectively coupling said clutch disc to said housing (Fig. 1), including at least one cylinder and piston unit (51, 52) having at least one cylinder (51) mounted on said housing so that it is axially fixed while being rotatable with reference to the housing; and means for separably coupling the at least one cylinder with the housing (70 and 71 separably couple the cylinder 51 with the housing).

2. The power train of claim 1, wherein said at least one cylinder is rotatable about said predetermined axis (Fig. 1 as best understood).

3. The power train of claim 1, wherein said at least one unit further comprises an annular piston (52) reciprocable in said at least one cylinder.

7. The power train of claim 1, wherein said at least one cylinder (51) is coaxial with said housing and is rotatable relative to said housing about said axis (Fig. 1), said torque transmitting means further including an antifriction bearing (1b) interposed between said housing and said at least one cylinder.

8. The power train of claim 1, further comprising a first bearing interposed between said housing and said at least one cylinder (1b), said at least one unit further comprising a piston (52) reciprocable in said at least one cylinder and a second bearing (1a) interposed between said piston and a resilient element (23) of said clutch, said resilient element being arranged to bias a pressure plate (24) of said clutch against said clutch disc in the engaged condition of said clutch.

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9. The power train of claim 8, wherein said bearings spacedly surround said axis, said first bearing being disposed at a first radial distance from said axis and said second bearing being disposed at a second radial distance from said axis (Fig. 1).

10. The power train of claim 9, wherein said first distance at least approximates said second distance (Fig. 1).

16. The power train of claim 1, wherein said housing (22) includes an annular portion nearest to and surrounding said axis, said means for selectively coupling further including a bearing (1b) centered by said annular portion.

17. The power train of claim 16, wherein an intermediate ring surrounds said bearing and includes a feature for holding the bearing in an axially fixed position relative to the housing (71 and 70 hold the bearing axially and 71 is an intermediate ring surrounding the bearing).

18. The power train of claim 1, wherein said housing of said clutch includes a flywheel (21) and a cover (22) having a radially outer portion remote from said axis and affixed to said flywheel and a radially inner portion adjacent to but spaced apart from and surrounding said axis (Fig. 1), said clutch further having at least one component (30) disposed in said housing between said flywheel and said cover as seen in the direction of said axis.

20. The power train of claim 1, further comprising an antifriction bearing (1b) between said at least one cylinder and said housing, and means for separably coupling said bearing with said housing of said friction clutch (70 and 71).

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21. The power train of claim 20, wherein said bearing has an outer race (Fig. 1 not labeled) and said coupling means (70 and 71) is arranged to separably connect said housing with said outer race

22. The power train of claim 20, wherein said coupling means is selected from the group consisting of a bayonet lock, a snap fastener and a detent (70 and 71).

26. The power train of claim 1, further comprising at least one fixed component (2), said at least one cylinder (51) being arranged to bear upon said at least one fixed component while receiving torque from one of said input and output members.

27. The power train of claim 26, further comprising a variable-speed transmission having an input shaft including said rotary input member, said transmission further comprising a stationary case and said fixed component forming part of said case (Fig. 1 and Specification).

38. The power train of claim 37, wherein said input member forms part of a change-speed transmission (Fig. 1 and Specification).

39. The power train of claim 1, further comprising a pilot bearing (Fig. 1 not labeled) between a prime mover including said output member and said clutch.

40. The power train of claim 1, further comprising a pilot bearing between a prime mover including said output member and a driven assembly including said input member (Fig. 1).

41. The power train of claim 1, further comprising a pilot bearing rotatably journalling one of said input and output members in the other of said input and output members (Fig. 1).

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42. A power train, comprising: a prime mover having an output member (20) rotatable about a predetermined axis; a driven unit including a rotary input member (31) coaxial with said output member; and an engageable and disengageable friction clutch arranged to transmit torque between said input and output members and including a housing (21, 22) rotatable with said output member about said axis, a clutch disc (26) disposed in said housing and affixed to said input member, a pressure plate (24) movable in the direction of said axis and arranged to rotate with and disposed in said housing, an energy storing device (23) disposed in said housing and operable to bias said pressure plate against said clutch disc to thus engage the clutch and establish a torque transmitting connection between said input and output members, and means for engaging said clutch including an actor (52) rotatable with and axially fixed relative to said housing, said actor including means for moving said energy storing device relative to said housing (30 and 4), and means for separably coupling the actor with the housing (70 and 71 separably couple the actor with the housing).

43. The power train of claim 42, wherein said clutch engaging means further includes a bearing (1a) interposed between said actor and said energy storing device.

46. The power train of claim 45, wherein said actor is coaxial with said input and output members (52).

48. The power train of claim 42, wherein said prime mover is the engine of a motor vehicle and said driven unit further includes a change-speed transmission (Fig. 1 and Specification).

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49. The power train of claim 42, wherein said clutch disc includes friction linings (27) engageable by said pressure plate and a torsional vibration damper (25) between said friction linings and said input member.

50. The power train of claim 42, wherein said energy storing device includes a diaphragm spring (23) and said clutch further comprises a counterpressure plate forming part of said housing (21), said clutch disc being disposed between said pressure plate and said counterpressure plate as seen in the direction of said axis (Fig. 1).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Checa '387 in view of Feigler Patent No. 5,284,233.

Checa discloses all the limitations of claims 15 and 16 but lacks any specific teaching of a portion of the housing consisting of sheet metal from a blank. Feigler '233 discloses a clutch with at least a portion of the housing made of sheet metal from a blank (column 4 lines 64-69). It would have been obvious to one of ordinary skill in the art at the time of this invention to modify Checa's clutch such that the housing is made of a sheet metal blank, in view of '233, to simplify the manufacturing process.



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6. Claims 23-25, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Checa '387 in view of Babcock Patent No. 4,995,492.

Checa discloses all the limitations of claims 23-25 and 33 but does not specifically disclose a portion of the cylinder made of a one-piece, injection molded, plastic material. Babcock '492 discloses a clutch with a one piece, plastic, injection molded cylinder. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Checa such that the clutch had a cylinder made of a one-piece, injection molded, plastic material, in view of Babcock '492, to simplify the manufacturing process and reduce the weight of the clutch. It also would have been obvious to one of ordinary skill in the art at the time of the invention to modify Checa such that the clutch was a push type clutch, in view of Babcock '492, to reduce the length of the cylinder and piston unit to reduce manufacturing cost.

7. Claims 32 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Checa '387 in view of Reik et al. 5,409,901.

Checa discloses all the limitations of claims 32 and 47 but does not specifically disclose means for compensating for wear. Reik et al. '901 discloses a clutch with a wear compensator, therefore, it would have been obvious to one of ordinary skill in the art at the time of this invention to modify Checa such that it included a wear compensator, in view of Reik, to compensate for the wear of the friction discs.

8. Claims 34, 35, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Checa '387 in view of Albers et al. Patent No. 5,135,091.

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Checa '387 discloses all the limitations of claims 34 and 35, but does not specifically disclose means for automatically supplying fluid to the at least one unit including a master cylinder, and an electrically or mechanically operated actor. Albers et al. '091 discloses an apparatus for operating clutches in motor vehicles with a master cylinder automatically supplying fluid to the at least one cylinder with an electrically and mechanically operated actor. It would have been obvious to one of ordinary skill in the art at the time of this invention to modify Checa such that the clutch included means for automatically supplying fluid including a master cylinder, in view of Albers '091, to regulate and automatically control the operation of the clutch.

9. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Checa '387 in view of Jackel et al. Patent No. 6,450,314.

Checa discloses all the limitations of claim 37, but does not specifically disclose means for separably connecting the housing to the output member such that the clutch disc can stay coupled to the input member prior, during and upon separation of the housing. Jackel '314 discloses a clutch (Fig. 3) with a means for separably coupling the housing to the output members such that the clutch disc stays connected to the input member prior, during and upon separation of the housing. It would have been obvious to one of ordinary skill in the art at the time of this invention to modify Checa such that the clutch disc with means for separably coupling the housing to the input member, in view of Jackel '314 so that the clutch components were more easily accessible.

### ***Response to Arguments***

***Response to Arguments***

10. Applicant's arguments filed 04/03/2003 have been fully considered but they are not persuasive. The applicant argues the release device in Checa ('387) is not separable. Although the applicant does acknowledge the clutch cover (housing) is connected to the roller bearing by means of a clip ring (70) that can be released, the applicant contends it is not possible to separate the release device from the clutch cover within the confines of the clutch space during a repair in which the engine has to be separated from the transmission. Even if such an argument by Applicant was valid, and it is noted the Examiner disagrees with such an assertion, the Checa reference still discloses a power train within the scope of the Applicant's recitation, "means for separably coupling the cylinder to the clutch cover (housing)." The Checa (22) reference teaches means for separably coupling the housing (22) to the cylinder (51) in the respect that the circlip (70) and the element (71) can be physically separated from the cylinder (51).

***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric M Williams whose telephone number is 703-305-0607. The examiner can normally be reached on Mon. - Fri. from 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A Marmor can be reached on 703-308-0830.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.



EMW  
May 29, 2003



RODNEY H. BONCK  
PRIMARY EXAMINER  
ART UNIT 3681